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Laboratory closure “a huge success”

In January 2004, Stoller was tasked with safe closure of the Analytical Chemistry Laboratory at the U.S. Department of Energy's (DOE's) Grand Junction office. The lab had operated for more than 40 years and was considered one of the top radiochemistry laboratories in the country. However, because of a decreasing number of samples being generated from both internal operations and external customers, DOE determined in the fall of 2003 that it was no longer cost-effective to continue operating the lab.

The challenges facing Stoller included management of remaining unused chemicals, hazardous wastes, precious metals, property, supplies, and records. Additionally, numerous regulatory permits had to be closed out. More than 300 controlled property items with a purchase value of approximately \$2.9 million and 3,500 cubic feet of miscellaneous supplies had to be excessed according to DOE orders, which meant following specific protocol to transfer them to other facilities. Some of the items were as unique as the three-germanium detector units that, because of their lead shielding, individually weighed more than 7,000 pounds. Remaining chemicals ranged from a vial of enriched uranium to gallons of acids and bases.

Through word-of-mouth, Waste Isolation Pilot Plant representatives from Carlsbad, New Mexico, were the first to express interest in the excess materials, and they laid claim to approximately 150 items valued in excess of \$1.5 million. Argonne National Laboratories out of Idaho Falls, Idaho, followed and filled a semi-truck full with more than 50 items (including the germanium detectors) and numerous supplies valued at close to \$1 million. Because of the type of equipment, after all of the DOE facilities had a chance to claim equipment, the remaining property was listed on the Energy-Related Laboratory Equipment Grant Program through which participating colleges, universities, and other nonprofit educational institutions of higher learning can claim the equipment. Interest ranged from Mesa State College in Grand Junction to Carnegie Mellon in Pennsylvania. The University of Oklahoma, which has a full-time coordinator who looks for excess property, brought two semi-trucks and had no problem filling them with excess supplies and more than 60 pieces of equipment.

Chemicals not claimed by others were lab-packed and shipped to a hazardous waste

disposal facility. Cost savings were achieved by sending more than 400 containers of chemicals and products to the local landfill's household hazardous waste recycling facility. Not only were the landfill fees cheaper than a hazardous waste facility, the materials can be reused and recycled. Several shipments of radioactive waste that met the Waste Acceptance Criteria at the Grand Junction (Uranium Mill Tailings Remedial Action) disposal cell were disposed of there. The most challenging aspect of managing the laboratory



A germanium detector is removed from the Analytical Chemistry Laboratory using a fork lift.

closure was to decommission four perchlorate ventilation hood systems used in the lab. Because perchlorate crystals are potentially explosive, Stoller hired a specialized subcontractor that safely decommissioned the hoods despite finding crystals in one of the hood systems.

Stoller conducted a radiological survey of the laboratory structure, drains, and ventilation system to demonstrate that the materials could be free-released (without restriction) and be disposed of in the local landfill. Using a statistical sampling strategy, hundreds of samples were taken to confirm the facility is radiologically “clean”.

“The overall transfer of property and closeout of the laboratory was a huge success thanks to the hard work and diligence of numerous people from DOE and the Stoller Team's property, waste management, health and safety, and records management groups,” said John Elmer, Stoller Technical Manager at Grand Junction.